

AMENDMENTS

In the Specification

Please replace the paragraph beginning on Page 12, line 7 with the following amended paragraph:

Figures 3A and 3B illustrate one example of the feedback logic for feedback control unit 20, which is embodied in an electronic circuit such as a programmable logic array. Feedback control unit 20 iteratively receives input signals from several sensors, including in situ combustion sensors 40a and 40b which are indicative of the pressure and temperature, respectively, of the internal combustion chamber, and one or more post-combustion sensors 40c which are indicative of the gas content in the exhaust stream, e.g., NO_x or CO₂. Additional sensors may be utilized, such as a sensor which determines the post combustion temperature. Feedback control unit 20 receives these sensory input signals and determines the optimum (or near-optimum) operating parameters for NMR/NQR device 12. Corresponding output signals are forwarded to controller 32 which then adjusts the performance of signal source 34 accordingly to achieve the required resonant frequency stimulus.